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**** WARNING ** WARNING ** WARNING ** WARNING ****
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March 15, 2005

08-SBd-18-71.3/87.7
08-0F4204

Addendum No. 1

Dear Contractor:

This addendum is being issued to the contract for construction on State highway in SAN BERNARDINO COUNTY IN AND NEAR BIG BEAR LAKE FROM BIG BEAR DAM TO JUNCTION ROUTE 38 AT BIG BEAR CITY.

Submit bids for this work with the understanding and full consideration of this addendum. The revisions declared in this addendum are an essential part of the contract.

Bids for this work will be opened on April 7, 2005.

This addendum is being issued to the Notice to Contractors and Special Provisions.

In the Special Provisions, Section "NOTICE TO CONTRACTORS", the seventh paragraph is revised as follows:

"At the time this contract is awarded, the Contractor shall possess either a Class A license or one of the following Class C licenses: C-12, C-32."

In the Special Provisions, Section 4, "BEGINNING OF WORK, TIME OF COMPLETION AND LIQUIDATED DAMAGES," is replaced as attached.

In the Special Provisions, Section 10-1.14, "BONDED WEARING COURSE (NOVA CHIP)," is replaced as attached.

In the Proposal and Contract, the Engineer's Estimate Item 12 is revised as attached.

Addendum No. 1
Page 2
March 15, 2005

08-SBd-18-71.3/87.7
08-OF4204

To Proposal and Contract book holders:

Replace page 3 of the Engineer's Estimate in the Proposal with the attached revised page 3 of the Engineer's Estimate. The revised Engineer's Estimate is to be used in the bid.

Indicate receipt of this addendum by filling in the number of this addendum in the space provided on the signature page of the proposal.

Submit bids in the Proposal and Contract book you now possess. Holders who have already mailed their book will be contacted to arrange for the return of their book.

Inform subcontractors and suppliers as necessary.

This office is sending this addendum by confirmed facsimile to all book holders to ensure that each receives it. A copy of this addendum and the modified wage rates are available for the contractor's use on the Internet Site:

http://www.dot.ca.gov/hq/esc/oe/weekly_ads/addendum_page.html

If you are not a Proposal and Contract book holder, but request a book to bid on this project, you must comply with the requirements of this letter before submitting your bid.

Sincerely,

ORIGINAL SIGNED BY

REBECCA D. HARNAGEL, Chief
Office of Plans, Specifications & Estimates
Office Engineer

Attachments

SECTION 4. BEGINNING OF WORK, TIME OF COMPLETION AND LIQUIDATED DAMAGES

Attention is directed to the provisions in Section 8-1.03, "Beginning of Work," in Section 8-1.06, "Time of Completion," and in Section 8-1.07, "Liquidated Damages," of the Standard Specifications and these special provisions.

The Contractor shall begin work within 15 calendar days after the contract has been approved by the Attorney General or the attorney appointed and authorized to represent the Department of Transportation.

The work shall be diligently prosecuted to completion before the expiration of **45 WORKING DAYS** beginning on the fifteenth calendar day after approval of the contract.

The Contractor shall pay to the State of California the sum of \$5,100 per day, for each and every calendar day's delay in finishing the work in excess of **45 WORKING DAYS**.

10-1.14 BONDED WEARING COURSE

This work shall consist of constructing a bonded wearing course in conformance with the details shown on the plans and as specified in these special provisions.

Bonded wearing course shall consist of an application of a polymer modified asphalt emulsion membrane followed by a gap graded polymer modified asphalt concrete.

Gap graded polymer modified asphalt concrete shall conform to the provisions for asphalt concrete in Section 39, "Asphalt Concrete," of the Standard Specifications and these special provisions.

Polymer modified asphalt for use in the polymer modified asphalt emulsion membrane and gap graded polymer modified asphalt concrete shall conform to the provisions in Section 92, "Asphalts," of the Standard Specifications and these special provisions.

Polymer modified asphalt emulsion membrane shall conform to the provisions for asphalt emulsion in Section 94, "Asphaltic Emulsions," of the Standard Specifications and these special provisions.

Polymer Modified Asphalt

The polymer modified asphalt binder to be used in the gap graded polymer modified asphalt concrete shall be GGB Grade 4 and shall conform to the following requirements:

Specification Designation	Test Method	GGB Grades			
		1	2	3	4
Flash Point, Cleveland Open Cup, °C, min., original binder	AASHTO T48	230	230	230	230
Brookfield Viscosity, max. 3.0 Pa s test temperature, °C	ASTM D 4402	135	135	135	135
Dynamic Shear, $SSD \geq 30 \times (0.6 + SSV)^3$ original binder, °C	California Test 381 Part 1	25	25	25	25
Mass Loss after RTFO test, % max	AASHTO T240	0.6	0.6	0.6	0.6
Dynamic Shear, G^*/\sin , min. 2.2 kPa RTFO aged residue, test temperature at 10 rad/sec, °C	California Test 381 Part 3	70	64	64	58
Residue from PAV, test temperature, °C	AASHTO PP1-98	110	100	100	100
Dynamic Shear, $SSD \geq -115 \times (SSV) - 50.6$ On PAV aged residue, from AASHTO PP1, °C	California Test 381 Part 1	25	25	25	25
Creep Stiffness, 300 MPa, Max. and M-value, 0.30, Min. residue from PAV, test temperature °C	AASHTO TP1-98	-12	-12	-18	-24

The polymer modified asphalt to be used in the polymer modified asphalt emulsion membrane shall conform to the following requirements:

Specification Designation	Test Method	Requirement	
		Min.	Max.
Saybolt-Furol Viscosity, at 25°C, s	AASHTO T59	20	100
Sieve Test on original emulsion (at time of delivery), %	AASHTO T59	-	0.05
24-hour Storage Stability, % (note a)	AASHTO T59	-	1
Residue by Evaporation, %	California Test 331	63	-
Solubility in Organic Solvent, % (note b)	AASHTO T44	97.5	-
Torsional Recovery, measure entire arc of recovery, at 25°C, %	California Test 332	30	-
Penetration (0.01 mm) at 25°C			
Emulsion used with GGB1 or GGB2	AASHTO T49	70	150
Emulsion used with GGB3	AASHTO T49	90	180
Emulsion used with GGB4	AASHTO T49	100	200

Notes:

- a. After standing undisturbed for 24 hours, the surface shall show no white, milky colored substance, but shall be a smooth homogeneous color throughout.
- b. The organic solvent shall be from the approved list available from the Transportation Laboratory.

Each shipment of polymer modified asphalt and polymer modified asphalt emulsion delivered to the project shall be accompanied by a Certificate of Compliance, in conformance with the provisions in Section 92-1.03, "Test Report," of the Standard Specifications. The Certificate of Compliance shall verify that the results of AASHTO Test Method T240 indicate a maximum mass loss of 0.6 percent and that the results of AASHTO Test Method T48 indicate a minimum flash point of 230°C for the batch represented by the shipment. If the results of mass loss or flash point shown on the Certificate of Compliance do not meet requirements specified herein, or if the results are not shown on the Certificate of Compliance, the individual shipment of asphalt will be rejected.

The initial shipment of polymer modified asphalt and polymer modified asphalt emulsion shall be accompanied by the actual test results performed by the asphalt producer and shall be provided to the Engineer with the Certificate of Compliance. Thereafter, within 72 hours of delivery, the Contractor shall provide the Engineer with the actual test results for polymer modified asphalt and polymer modified asphalt emulsion to demonstrate compliance with the requirements specified herein for each batch of polymer modified asphalt and polymer modified asphalt emulsion used in the bonded wearing course.

If polymer modified asphalt and polymer modified asphalt emulsion is unloaded into bulk storage tanks, polymer modified asphalt and polymer modified asphalt emulsion from the tanks shall not be used on the project until a Certificate of Compliance is furnished for the material conforming with the requirements specified herein.

Polymer modified asphalt to be used as binder in gap graded polymer modified asphalt concrete shall be sampled using the sampling device specified in Section 39-3.01C, "Asphalt Binder Storage," of the Standard Specifications. Two samples per operating day shall be taken from the bulk storage tank feeder line. Each sample shall consist of four 1-liter containers.

If test results of samples taken from the bulk storage tank do not meet the mass loss requirements, the material which is represented by the tests shall be removed.

Aggregate

The aggregate for gap graded polymer modified asphalt concrete, prior to the addition of polymer modified asphalt binder, shall conform to the provisions of Section 39-2.02, "Aggregate," of the Standard Specifications and these special provisions.

The aggregate grading for gap graded polymer modified asphalt concrete shall conform to the following:

Percentage Passing 9.5-mm Maximum			
Sieve Sizes	Limits of Proposed Gradation	Operating Range	Contract Compliance
12.5-mm	—	100	100
9.5-mm	—	85-100	82-100
4.75-mm	28-38	X±4	X±8
2.36-mm	25-32	X±4	X±6
1.18-mm	15-23	X±3	X±5
600- m	10-18	X±3	X±5
300- m	8-13	X±3	X±5
150- m	—	5-11	4-12
75- m	—	3-8	2-9

In the table above, the symbol "X" is the gradation which the Contractor proposes to furnish for the specific sieve. The proposed gradation shall meet the gradation shown in the "Limits of Proposed Gradation" column of the table above.

Natural sand shall not be used.

The combined aggregates shall conform to the following requirements prior to the addition of the polymer modified asphalt binder:

Tests	Test Method	Requirement
Percentage of Crushed Particles: Coarse Aggregate, %, min.	California Test 205 (note a)	90
Fine Aggregate (On portion passing a 4.75-mm sieve and retained on a 2.36-mm sieve), %, min.	California Test 205 (note a)	85
Uncompacted Void Content, %, min. (note b)	AASHTO T304 Method A	45
Flat & Elongated Ratio at 3:1, %, max.	ASTM D 4791	25
Los Angeles Rattler Loss at 500 rev., %, max.	California Test 211	35
Sand Equivalent: Contract Compliance, min.	California Test 217	47
Operating Range, min.	California Test 217	50

Note:

a. In California Test 205, Section D, the definition of a crushed particle is revised as follows:
"A particle having 2 or more fresh mechanically fractured faces shall be considered a crushed particle."

b. If the fine aggregate is 100% crushed, the use of crushed material shall be monitored during the production process. If the fine fraction is a combination of crushed and natural materials, the FAA shall be monitored during the process.

The Contractor shall furnish samples of aggregate to the Engineer in conformance with the provisions in Section 39-3.03, "Proportioning," of the Standard Specifications. Aggregates for gap graded polymer modified asphalt concrete shall be treated in conformance with the provisions in "Lime Treated Aggregates" of these special provisions.

The Contractor shall submit a sample of the proposed polymer modified asphalt to be used as binder in the gap graded polymer modified asphalt concrete and proposed liquid anti-strip or proposed lime to the Engineer with the samples required for mix design verification.

The aggregate from each separate bin used for gap graded polymer modified asphalt concrete, except for the bin containing the fine material, shall have a minimum Cleanness Value of 57 as determined by California Test 227, modified as follows:

- A. Tests will be performed on the material retained on the 2.36-mm sieve from each bin and will not be a combined or averaged result.
- B. Each test specimen will be prepared by hand shaking for 30 seconds, a single loading of the entire sample on a 305-mm diameter, 4.75-mm sieve nested on top of a 305-mm diameter, 2.36-mm sieve.
- C. Where a coarse aggregate bin contains material which will pass the maximum size specified and be retained on a 9.5-mm sieve, the test specimen mass and volume of wash water specified for 25-mm x 4.75-mm aggregate size will be used.
- D. Samples will be obtained from the weigh box area during or immediately after discharge from each bin of the batching plant or immediately prior to mixing with asphalt in the case of continuous mixers.
- E. The Cleanness Value of the sample from each of the bins will be separately computed and reported.

At drier-drum and continuous plants with cold feed control, Cleanness Value test samples shall be obtained from the discharge of each coarse aggregate storage. An aggregate sampling device shall be furnished to provide a 25-kg sample of each coarse aggregate.

Combined aggregates for gap graded polymer modified asphalt concrete shall conform to the following requirement when mixed with the polymer modified asphalt in the amount of asphalt determined to be optimum by California Test 368:

Specification	Requirements
Surface Abrasion Test, California Test 360, max. loss	0.40 g/cm ²

Gap Graded Polymer Modified Asphalt Concrete

The amount of polymer modified asphalt binder to be mixed with the aggregate for gap graded polymer modified asphalt concrete shall be determined by the Contractor using California Test 368 and the requirements of these special provisions. Samples of aggregates for use in gap graded polymer modified asphalt concrete shall be obtained in conformance with the provisions in Section 39-3.03, "Proportioning," of the Standard Specifications. The recommended binder content shall be based on estimated film thickness conforming to the draindown requirement. The Engineer will verify the mix design using California Test 368 and the requirements of these special provisions.

In addition to California Test 368, the gap graded polymer modified asphalt concrete shall be designed and evaluated using the following:

Test	Test Method	Requirement	
		Min.	Max
Draindown Test, g	California Test 368	-	4
Film Stripping, %	California Test 302	-	25
Film Thickness, m	Gradation surface area factor method Asphalt Institute MS-2 Table 6.1	10.0	-

Film thickness will be calculated based on effective asphalt content.

During construction, the polymer modified asphalt binder content of the gap graded polymer modified asphalt concrete will be verified by California Test 382. Samples for determining the polymer modified asphalt binder content shall be obtained from trucks at the plant or from the hopper of the paver as approved by the Engineer.

Storage Proportioning and Mixing

Storage of aggregate and polymer modified asphalt binder shall conform to the provisions in Section 39-3.01, "Storage," of the Standard Specifications.

Gap graded polymer modified asphalt concrete storage shall conform to the provisions for asphalt concrete storage in Section 39-3.05, "Asphalt Concrete and Asphalt Concrete Base Storage," of the Standard Specifications except that the gap graded polymer modified asphalt concrete shall not be stored in excess of 12 hours.

Mixing shall conform to the provisions in Section 39-3.04, "Mixing," of the Standard Specifications except that the temperature of the aggregate before adding the polymer modified asphalt binder shall not be more than 177°C. For continuous mixing, temperature of the completed mixture shall not exceed 177°C at discharge from the mixer.

Spreading and Compacting Equipment

The Contractor shall use an integrated distributor-paver to apply the bonded wearing course.

The integrated distributor-paver shall be capable of spraying the polymer modified asphalt emulsion membrane, applying the gap graded polymer modified asphalt concrete and leveling the surface of the mat in one pass. No wheel or other part of the paving machine shall come in contact with the polymer modified asphalt emulsion membrane before the gap graded polymer modified asphalt concrete course is applied.

The integrated distributor-paver shall incorporate a receiving hopper, screw conveyors, storage tank and spray bar for polymer modified emulsion membrane, and a variable width, heated, vibratory-tamping bar screed. The screed shall have the ability to crown the pavement at the center both positively and negatively, and shall have vertically adjustable extensions to accommodate the desired pavement profile. The gap graded polymer modified asphalt concrete shall be placed over the full width of the polymer modified asphalt emulsion membrane with a heated, vibratory-tamping bar screed.

The polymer modified asphalt emulsion membrane shall be applied by a mechanical pressure spray bar. The application rate shall be metered to within a tolerance of 0.08 L/m². The polymer modified asphalt emulsion shall be applied at a uniform rate for the full paving width. The meter shall conform to the requirements of California Test 109. The meter shall be equipped with a device by which the rate of application can be determined while the paver is in operation.

Spreading and Compacting

Before placing the bonded wearing course, the existing pavement surface shall be cleaned in conformance with the provisions of Section 37-1.04, "Preparation for Seal Coat," of the Standard Specifications.

Bonded wearing course shall be placed only when both the atmospheric and the pavement temperatures are above 7°C with no freezing temperatures expected within 24 hours of the placement of the bonded wearing course.

Polymer modified asphalt emulsion shall be applied at a rate of 0.6 L/m² to 1.2 L/m². The exact rate shall be determined by the Contractor and approved by the Engineer. The polymer modified asphalt emulsion shall be applied manually where the screed extension or handwork is required outside the range of the machine mounted spray bar.

Application of bonded wearing course shall be such that the polymer modified asphalt emulsion membrane is placed on the pavement before the gap graded polymer modified asphalt concrete is placed. Placing material in a windrow, followed by picking up the material and placing it in the asphalt paver hopper with loading equipment, shall not be permitted. Placement operations or equipment which do not keep surfaces clean and free of contamination prior to placement of the polymer modified asphalt emulsion membrane, or do not prevent tracking through the polymer modified asphalt emulsion membrane prior to placement of the gap graded polymer modified asphalt concrete shall not be used.

Gap graded polymer modified asphalt concrete shall be applied at a temperature not less than 135°C as measured in the hopper of the paving machine. Gap graded polymer modified asphalt concrete shall be spread over the polymer modified asphalt emulsion membrane immediately after the application of the polymer modified asphalt emulsion membrane.

A minimum of one steel-tire, 2-wheeled tandem roller weighing not less than 11 tonnes shall be used to compact gap graded polymer modified asphalt concrete. Rollers and roller operation shall conform to the provisions of Section 39-5.02, "Compacting Equipment," and Section 39-6.03, "Compacting," of the Standard Specifications, except that the roller operation shall be performed in the static mode only.

Compaction of the bonded wearing course shall consist of a minimum of two passes, before the material temperature has fallen below 90°C.

The bonded wearing course shall not be opened to traffic until the rolling operation is complete and the material has cooled to below 70°C.

Measurement and Payment

Gap graded polymer modified asphalt concrete will be measured and paid for by the tonne in the same manner specified for asphalt concrete in Section 39-8, "Measurement and Payment," of the Standard Specifications. The contract pay item for gap graded polymer modified asphalt concrete is Bonded Wearing Course.

Polymer modified asphalt emulsion will be measured and paid for by the tonne in the same manner specified for asphaltic emulsion in Section 94, "Asphaltic Emulsions," of the Standard Specifications.

The above payments shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in constructing bonded wearing course, complete in place, as shown on the plans and as specified in the Standard Specifications and these special provisions, and as directed by the Engineer, except as otherwise provided.

ENGINEER'S ESTIMATE
08-0F4204

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
1	074017	PREPARE WATER POLLUTION CONTROL PROGRAM	LS	LUMP SUM	LUMP SUM	
2	074020	WATER POLLUTION CONTROL	LS	LUMP SUM	LUMP SUM	
3 (S)	120090	CONSTRUCTION AREA SIGNS	LS	LUMP SUM	LUMP SUM	
4 (S)	120100	TRAFFIC CONTROL SYSTEM	LS	LUMP SUM	LUMP SUM	
5 (S)	128650	PORTABLE CHANGEABLE MESSAGE SIGN	EA	2		
6	150704	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE	M	50 800		
7	150714	REMOVE THERMOPLASTIC TRAFFIC STRIPE	M	40 900		
8	150715	REMOVE THERMOPLASTIC PAVEMENT MARKING	M2	290		
9	150722	REMOVE PAVEMENT MARKER	EA	7520		
10	190110	LEAD COMPLIANCE PLAN	LS	LUMP SUM	LUMP SUM	
11	374492	ASPHALTIC EMULSION (POLYMER MODIFIED)	TONN	210		
12	034083	BONDED WEARING COURSE	TONN	8160		
13 (S)	840515	THERMOPLASTIC PAVEMENT MARKING	M2	290		
14 (S)	840560	THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)	M	68 900		
15 (S)	850122	PAVEMENT MARKER (RETROREFLECTIVE-RECESSED)	EA	7520		

TOTAL BID: _____